

**AMENDMENTS TO THE DRAWINGS**

Two (2) replacement drawing sheets (Figs. 10, 11 and 17) are submitted herewith. Fig. 10 has been amended to correctly identify sensor element 107. Fig. 17 has been corrected so as to be designated "PRIOR ART". Fig. 11 is unchanged.

Attachment: Annotated Marked-Up Drawing: Figs. 10 and 17  
Replacement Sheets: Figs. 10, 11 and 17

**REMARKS**

**Status of the Application**

Claims 1-23 are the claims that have been examined in the application. Claims 1-23 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-5, 9-11, 13-16, 18 and 22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Beyer et al. (U.S. Patent No. 4,305,803). Claims 6 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Beyer et al. (U.S. Patent No. 4,305,803) in view of Ohtsuki et al. (U.S. Patent No. 6,296,748). Claims 7 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Beyer et al. (U.S. Patent No. 4,305,803) in view of Nishizawa et al. (U.S. Patent No. 4,795,544). Claims 8, 21 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Beyer et al. (U.S. Patent No. 4,305,803) in view of Kawatsu (U.S. Patent No. 5,897,766). Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Beyer et al. (U.S. Patent No. 4,305,803).

Claims 1 and 22 have been amended to incorporate therein the features of claims 2 and 4. Claim 9 has been amended to incorporate therein the features of claims 10 and 11. Claims 2, 4, 10 and 11 have been canceled. Claim 17 has been rewritten in independent form as new claim 24. Claim 17 has been canceled. Claims 3 and 12 have been amended to depend from claims 1 and 9, respectively.

**Preliminary Matters**

Applicants thank the Examiner for acknowledging Applicants' claim to foreign priority and receipt of the certified priority document.

Applicants also thank the Examiner for considering and initialing the Information Disclosure Statements filed June 14, 2004 and January 30, 2004.

**Drawing Objection**

The Examiner has objected to the drawings because of various informalities as outlined on pages 2 and 3 of the instant Office Action. Applicants hereby amend FIGS. 10 and 17 and amend the specification in order to correct the noted deficiencies.

The Examiner also alleges that the drawings fail to show every feature of the claims, namely, “a second electrode ‘communicating exclusively with the atmosphere of the gas under measurement.’” Applicants respectfully submit that FIG. 5 (and FIG. 1) shows, in an exemplary embodiment of the invention, electrode 17 in exclusive communication with pipe 70 through gas return channels 35 and gas return holes 29. As noted on page 7, lines 16-17, the inside of pipe 70 is an exemplary embodiment of the atmosphere of the gas under measurement. Electrode 15 is disposed within the measurement chamber, but is not in communication with the *atmosphere* of the gas under measurement (i.e. the gas outside the measurement chamber). Thus, FIG. 5 clearly shows the second electrode recited in claim 1, and withdrawal of the objection is respectfully requested.

**Specification Objection**

The Examiner has objected to the specification for various informalities, namely because typographical errors exist in the Specification, as noted by the Examiner on page 3 of the instant Office Action.

Applicants hereby amend the specification to correct the noted deficiencies.

**Allowable Subject Matter**

*Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim.*

Applicants thank the Examiner for indicating that claim 17 would be allowable if rewritten in independent form. Applicants hereby cancel claim 17, and rewrite the subject matter of claim 17 into new independent claim 24, incorporating the subject matter of the base claim. Therefore, Applicants submit that claim 24 is immediately allowable.

**Claim Rejections - 35 U.S.C. § 112**

*Claims 1-23 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.*

The Examiner states that independent claims 1, 9 and 22 each recite the limitation “second electrode disposed in contact with the second surface of the ion-conductive layer and communicating exclusively with the atmosphere of the gas under measurement.” The Examiner alleges that the specification (page 7, lines 15-17) and the figures depict the first electrode being in communication with the atmosphere of the gas under measurement. However, as noted above with respect to the drawing objections, Applicants respectfully submit that the drawings and specification sufficiently support the claims as written, and that the claims particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claim Rejections - 35 U.S.C. § 102**

*Claims 1-5, 9-11, 13-16, 18 and 22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Beyer et al. (U.S. Patent No. 4,305,803).*

Claim 1, recites, “a gas return passage for returning the gas drawn to the second electrode to the atmosphere of the gas under measurement, said gas return passage extending to the front end side of the support member.” On pages 5-10 of the instant Office Action, the Examiner rejects claims 1-5, 9-11, 13-16, 18 and 22 under 35 U.S.C. § 102(b) as being anticipated by Beyer et al. (U.S. Patent No. 4,305,803). Specifically, with respect to claim 1, the Examiner alleges that elements 20 and 28 correspond to the recited gas diffusion rate limiting portion, that FIG. 1 of Beyer shows a measurement chamber, element 22 corresponds to the recited sensor, element 17 corresponds to the ion-conductive later, and elements 16 and 21 correspond to the recited first and second electrodes, respectively. Further, the Examiner alleges that element 11 corresponds to the recited cylindrical support member.

On the other hand, Beyer simply discloses an opening (see col. 4, lines 27-30), but fails to disclose or illustrate an opening *extending to the front end side* of the recited support member. Therefore, claim 1 is patentable over the applied art. Claims 3 and 5 should be patentable at least by virtue of their dependency from claim 1.

Claims 9 and 22 recite similar limitations to claim 1, and are patentable for reasons analogous to those presented with respect to claim 1. Claims 13-16 and 18 are patentable at least by virtue of their dependency from claim 1.

**Claim Rejections - 35 U.S.C. § 103**

*Claims 6 and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Beyer et al. (U.S. Patent No. 4,305,803) in view of Ohtsuki et al. (U.S. Patent No. 6,296,748).*

Claims 6 and 19 are dependent from claims 1 and 9, respectively. Because Beyer fails to disclose all of the elements of claims 1 and 9, and because Ohtsuki fails to cure the deficient disclosure of Beyer, claims 6 and 19 are patentable over the applied art.

*Claims 7 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Beyer et al. (U.S. Patent No. 4,305,803) in view of Nishizawa et al. (U.S. Patent No. 4,795,544).*

Claims 7 and 20 are dependent from claims 1 and 9, respectively. Because Beyer fails to disclose all of the elements of claims 1 and 9, and because Nishizawa fails to cure the deficient disclosure of Beyer, claims 7 and 20 are patentable over the applied art.

*Claims 8, 21 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Beyer et al. (U.S. Patent No. 4,305,803) in view of Kawatsu (U.S. Patent No. 5,897,766).*

Claims 8, 21 and 23 are dependent from amended claims 1, 9 and 22, respectively. Because Beyer fails to disclose all of the elements of claims 1, 9 and 22, and because Kawatsu fails to cure the deficient disclosure of Beyer, claims 8, 21 and 23 are patentable over the applied art.

*Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Beyer et al. (U.S. Patent No. 4,305,803).*

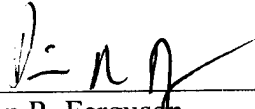
Claim 12 is dependent from claim 9. Because Beyer fails to disclose all of the elements of claim 9, claim 12 is patentable over the applied art.

**Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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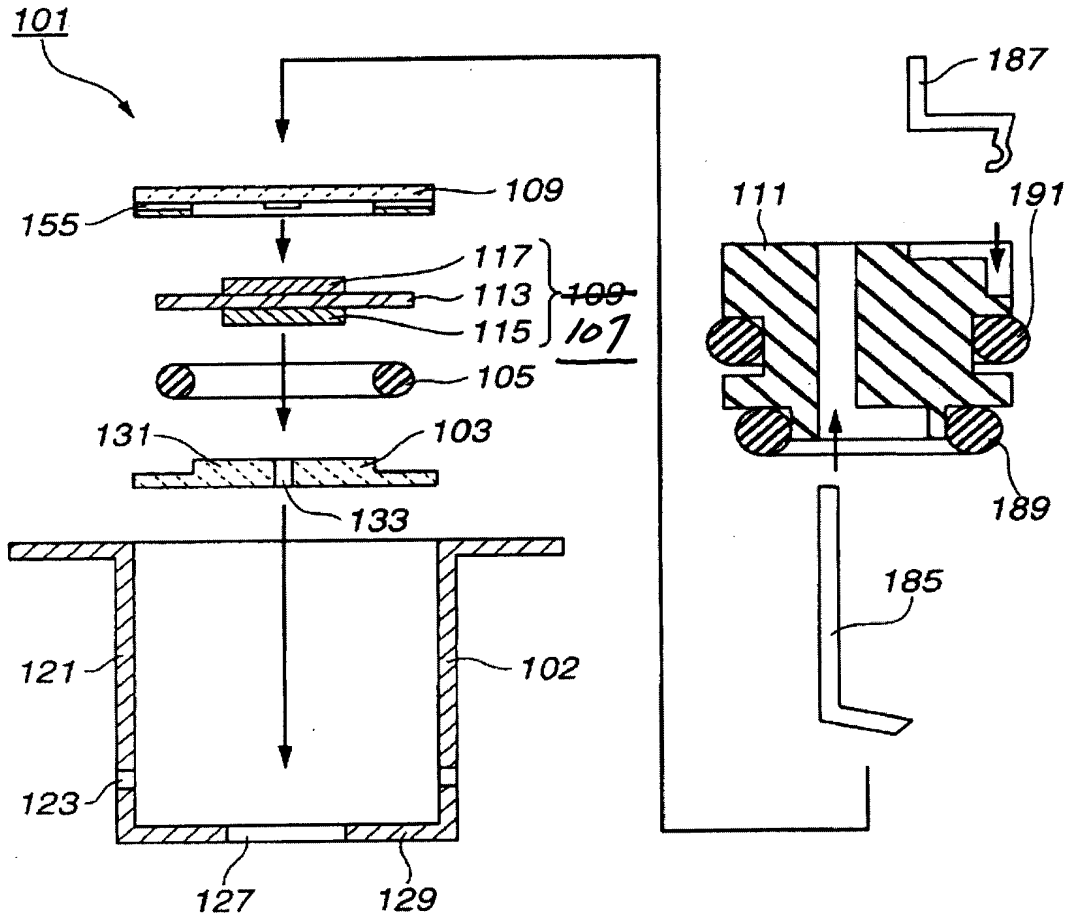
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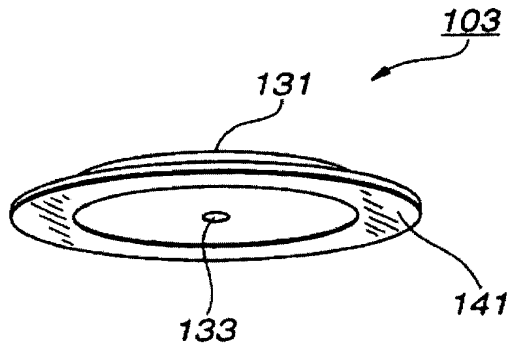
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ANNOTATED SHEET

**FIG.10**



**FIG.11**





**FIG.17**  
PRIOR ART

